APPLICATION

FOR

UNITED STATES LETTERS PATENT

TITLE: **SHOPPING INFORMATION PROVIDING SYSTEM**

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Title of the Invention

Shopping Information Providing System

Background of the Invention

Field of the Invention

5   The present invention relate to a system for

providing shopping information and, more particularly,

to a technique related to a system for calculating the

contents and quantities of materials necessary for a

selected menu on the basis of user information,

10   comparing them with special sale information, and

providing, to the user, information related to articles

to be purchased, including information related specials.

Related Background Art

On the Internet, web sites provide various kinds

15   of information to a user. Especially, some web sites

provide the types of articles and price information

thereof, thereby prompting the user to purchase them.

Presently, however, the Internet has no web site

capable of providing information about purchase of

20   materials of proper types and quantities necessary for

a desired menu, including the user family information

and stock information. For this reason, the user

specifies the types of materials related to the desired

menu from a cookbook or the like, calculates or

25   arranges the purchase quantities on the basis of the

necessary quantities and stocks on the basis of the

family members, individually checks, on leaflets, the special sale information of supermarkets, and picks up necessary articles and articles for special sale, thereby obtaining information of food items to be purchased. The user himself/herself must first obtain materials necessary for the desired menu and calculate the quantity information of the materials and the required quantities of necessary articles, resulting in inconvenience. In addition, the user must see on the basis of the leaflets of each supermarket if the articles are for special sale of the supermarket and always grasp the presence/absence of stock and stock amounts in the house. Selection and purchase for daily menus have been a worry for a user who prepares daily meals for the family.

Summary of the Invention

It is an object of the present invention to provide a shopping information providing system for solving the above problems and providing appropriate shopping information to a user.

In order to achieve the above object, according to the present invention, there is provided a shopping information providing server for providing shopping information, comprising a customer database which allows authentication of a user upon receiving an input ID with a password and stores the ID of the user and

family information of the user in correspondence with
each other, a menu database which stores a menu item, a
type of a material necessary for the menu, and a
necessary quantity of the material in correspondence
with each other, first storage means for authenticating
the user using the customer database in accordance with
an input from the user and storing the family member
information of the authenticated user, second storage
means for receiving menu selection information from the
user and storing, on the basis of the selected menu, a
type of article necessary for the menu and a necessary
quantity of the article, calculation means for
calculating a total necessary quantity necessary for
the selected menu for all family members on the basis
of the family member information stored in the first
storage means and the type and necessary quantity of
the article stored in the second storage means,
information providing means for storing the article and
necessary quantity calculated by the calculation means,
and special sale information database which stores a
providing source, and an article for special sale and a
price thereof in correspondence with the providing
source, wherein when the article stored in the
information providing means is compared with articles
stored in the special sale information database, and a
matching article is detected, the matching article is

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marked with a symbol, and special sale information in
the special sale information database, which is special
sale information selected by the authenticated user, is
stored in the information providing means in
correspondence with the providing source, and the
information stored in the information providing means
is provided to the authenticated user in accordance
with a request from the authenticated user.

According to the present invention, there is also
provided a shopping information providing client/server
system connected by interactive communication means,
comprising a customer database which stores an ID of a
user and family information of the user in
correspondence with each other, a menu database which
stores a menu item, a type of a material necessary for
the menu, and a necessary quantity of the material in
correspondence with each other, first storage means for
authenticating the user using the customer database in
accordance with an input from the user and storing the
family member information of the authenticated user,
second storage means for receiving menu selection
information from the user and storing, on the basis of
the selected menu, a type of article necessary for the
menu and a necessary quantity of the article,
calculation means for calculating a total necessary
quantity necessary for the selected menu for all family

members on the basis of the family member information
stored in the first storage means and the type and
necessary quantity of the article stored in the second
storage means, information providing means for storing

5   the article and necessary quantity calculated by the
calculation means, and special sale information
database which stores a providing source, and an
article for special sale and a price thereof in
correspondence with the providing source, wherein when

10   the article stored in the information providing means
is compared with articles stored in the special sale
information database, and a matching article is
detected, the matching article is marked with a symbol,
and special sale information in the special sale

15   information database, which is special sale information
selected by the authenticated user, is stored in the
information providing means in correspondence with the
providing source, and the information stored in the
information providing means is provided to the client

20   apparatus in accordance with a request from the
authenticated user.

According to the present invention, there is also
provided a shopping information providing method
comprising the steps of authenticating a user using a

25   customer database which allows authentication of a user
upon receiving an input ID with a password and stores

the ID of the user and family information of the user

in correspondence with each other, and selecting and

storing the family information of the authenticated

user, storing a type and necessary quantity of a

5   material necessary for a menu selected by the user

using a menu database which stores a menu item, a type

of a material necessary for the menu, and a necessary

quantity of the material in correspondence with each

other, calculating and storing a total necessary

10   quantity necessary for the selected menu for all family

members on the basis of the stored family member

information and the stored type and necessary quantity

of the material, storing special sale information

including an article for special sale and a price from

15   a providing source in correspondence with the providing

source, and comparing the material obtained in the

calculation and storage step with articles stored in a

special sale information database, and when a matching

article is detected, providing, to the authenticated

20   user, special sale information of the matching article

for special sale together with the information stored

in the calculation and storage step.

As described above, in the shopping information

providing server and client, the system thereof, and

25   the shopping information providing method according to

the present invention, total necessary quantities

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related to a selected menu are automatically calculated on the basis of the family information. In addition, comparison with special sale information is done to notify the user whether articles for special sale include the materials to be used for the menu, thereby prompting and supporting the user to decide the menu and select an article to be purchased.

The present invention will be more fully understood from the detailed description given hereinbelow and the accompanying drawings, which are given by way of illustration only and are not to be considered as limiting the present invention.

Further scope of applicability of the present invention will become apparent from the detailed description given hereinafter. However, it should be understood that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will be apparent to those skilled in the art from this detailed description.

Brief Description of the Drawings

Fig. 1 is a view showing the schematic view of an embodiment of the present invention.

Figs. 2A to 2C are views showing the data structures of a customer information database 302, menu

database 303, article price database 304, and stock

information database 305 in the shopping information

providing server according to the embodiment of the

present invention.

5   Fig. 3 is a flow chart showing a processing

method in the embodiment of the present invention.

Detailed Description of the Preferred Embodiments

A shopping information providing system according

to an embodiment of the present invention will be

10   described below with reference to the accompanying

drawings. Fig. 1 is a block diagram showing the

arrangement of an embodiment of the present invention.

As shown in Fig. 1, the shopping information

providing system according to the present invention

15   comprises client apparatuses 101 and 102, providing

sources 201 and 202 such as supermarkets for providing

special sale information, and a shopping information

providing server 301. These apparatuses are connected

through the Internet 401 to exchange information.

20   The shopping information providing server 301 has

a customer information database 302 which stores a user

ID, and password and family member information in

relation to the user ID, a menu database 303 which

stores menu items, and the types and quantities of

25   materials necessary for a menu in relation to the menu

item, a special sale information database 304 which

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stores specials, their prices, and providing source
information input from the providing sources 201 and
202 in correspondence with the specials or providing
source information, a stock information database 305
which stores the stock information of the user in
relation to the user ID, and a calculation unit 306 for
calculating information extracted from these databases.
These units are connected through a data bus 307 to
communicate with each other. A providing means 308 for
temporarily storing information to be provided to the
user is connected to the data bus 307.

The customer information database 302 and stock
information database 305 have storage means 302a and
305a for temporarily storing information related to the
input user ID in accordance with an external request to
the server, respectively. The menu database 303 is
connected to a storage means 303a for temporarily
storing the types and necessary quantities of materials
necessary for a selected menu on the basis of input
menu selection information.

Figs. 2A to 2C show the pieces of information
stored in the customer information database 302, menu
database 303, special sale information database 304,
and stock information database 305.

As shown in Fig. 2A, the customer information
database 302 stores user IDs, passwords, and the total

numbers of family members, and features, e.g.,

information of a low-salt diet or middle/low-caloric

diet, using the user IDs as keys.

As shown in Fig. 2B, the menu database 303 stores

menu names, names of materials necessary for one person,

the necessary quantity of each material, the recipes

for the menus, and the caloric data of the menus, using

the menu names as keys. This menu database 303 can be

occasionally updated by an external operation and can

be updated to have contents corresponding to the season.

As shown in Fig. 2C, the special sale information

database 304 stores the providing sources, articles for

special sale, and prices of articles for special sale.

In addition, notes, e.g., introduction of foods in

season or advertisement expressions are stored such

that they can be searched using the providing source

and article for special sale as keys. These contents

are accessed from the providing sources 201 and 202

such as supermarkets and updated to the latest

information.

The stock information database 305 stores the

presence/absence of reserve articles, e.g., seasonings

such as soy sauce, salt, and soybean paste in the

user's home, using the user ID as a key.

Using the customer information database 302, menu

database 303, special sale information database 304,

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and stock information database 305, a user who has
accessed the shopping information providing server
through the Internet is prompted to input information
using his/her ID. Additionally, on the basis of the
input data, the list of articles necessary for a
selected menu, the quantities of articles to be
purchased, the recipe of the selected menu, and special
sale information and, more particularly, whether the
materials (articles) necessary for the selected menu
are for special sale are specified. Furthermore, the
necessity of purchase of reserve articles that the user
should stock is provided to the user.

Fig. 3 is a flow chart showing the operation of
the shopping information providing system and, more
particularly, the shopping information providing server.

As shown in Fig. 3, first, when a user A accesses
the shopping information providing server through the
Internet using the client apparatus 101 or 102, the
customer information database 302 is accessed to check
whether the user has already been registered. If the
user has already been registered, the family member
information stored in the customer information database
302, e.g., the total number of family members and note,
i.e., whether a diet for hypertension is preferable, is
stored in the temporary storage means 302a. If the
user is unregistered, the user is prompted to register

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himself/herself. If the user agrees, he/she is
prompted to input predetermined items, e.g., the family
member information as shown in Fig. 2A. When the
family member information is input, and confirmation of
user's intention for registration is input, a user ID
and password are issued. When data are input using the
user ID and password, it is determined that the user is
a registered member, and the following processing is
executed.

Using family information specified by the ID-A of
a user 101a authenticated as a registered member,
information stored in the special sale information
database 304, and information stored in the menu
database 303, the list of selectable menus is presented
to the user to prompt him/her to select a menu. Being
prompted to select a menu, the user 101a selects a menu,
e.g., "lightly roasted round and julienne vegetables
with herb sauce". On the basis of the selection
instruction from the user 101a, the shopping
information providing server 301 accesses the menu
database 303 and temporarily stores, in the second
storage means 303a, articles "round, lettuce, carrot,
and cucumber" necessary for "lightly roasted round and
julienne vegetables with herb sauce" and the quantities
of articles "100 g, 0.25 leaf, 0.02 piece, and 0.25
piece ". The number of persons "five" for the menu is

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extracted from the family information stored in the
first storage means 302a in advance. The necessary
quantities of articles stored in the second storage
means 303a, "100 g, 0.25 leaf, 0.02 piece, and 0.25

5   piece ", are multiplied by the number of persons "five"
by the calculation unit 306 (round: 500 g, lettuce:
1.25 leafs, carrot: 0.1 piece, and cucumber: 1.25
pieces). The necessary articles and multiplication
results of the articles (round: 500 g, lettuce: 1.25

10   leafs, carrot: 0.1 piece, and cucumber: 1.25 pieces")
are stored in the information providing means 308.
Next, the articles "round and the like" necessary for
the menu, which are stored in the information providing
means, are compared to the special sale information

15   "round, fried bean curd, and soy sauce" stored in the
special sale information database. It is checked
whether the special sale information includes an
article (round) for special sale corresponding to the
article "round" stored in the providing means 308. If

20   a corresponding article for special sale is included, a
symbol representing an article for special sale is
attached to the stored article "round" to attract
attention of the user 101a in providing the information.

In the above processing, stock information of the

25   authenticated user 101a (ID-A) is checked on the stock
information database 305, and a reserve article without

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stock, salt in this embodiment, is stored in the
providing means. The stock information can be
automatically checked, i.e., the presence of reserve
articles in stock can be automatically checked or

5   visually confirmed and manually input by the user.
When it is determined that a reserve article has no
stock, the reserve article is compared with the
articles for special sale in the special sale
information database 304. A matching article is marked

10   and stored in the providing means 308. This article is
particularly marked as an article to be purchased and
provided as information.

The user 101a is notified of special sale
information stored in the special sale information

15   database 304, "fried bean curd, ginger, round, lettuce,
carrot, and cucumber" in this embodiment, and prompted
to select information. The special sale information
selected by the user in accordance with this
notification is also stored in the providing means 308.

20   In accordance with the request from the
authenticated user 101a, the pieces of information
stored in the providing means 308, i.e., the menu name
"lightly roasted round and julienne vegetables with
herb sauce", the articles necessary for the menu,

25   "round, lettuce, carrot, and cucumber", and their
necessary quantities "500 g, 1.25 leafs, 0.1 piece, and

1.25 pieces", the selected special sale information
(including the providing source, price, and article
name), and the information of reserve article "salt" to
be purchased are provided to the authenticated user

5   101a. In providing the information, since "round" can
be marked and presented as an article necessary for the
menu and also as an article for special sale, the user
can purchase "round" as an article for special sale.
This information can also be effectively used to select

10   the menu.

In the shopping information providing server and
client, the system thereof, and the shopping
information providing method according to the present
invention, total necessary quantities related to a

15   selected menu are automatically calculated on the basis
of family information. In addition, comparison with
stock information is done to provide, to the user, an
article to be purchased, thereby increasing the
convenience for the user.

20   From the invention thus described, it will be
obvious that the embodiments of the invention may be
varied in many ways. Such variations are not to be
regarded as a departure from the spirit and scope of
the invention, and all such modifications as would be

25   obvious to one skilled in the art are intended for
inclusion within the scope of the following claims.